Amendments to the Claims

Please amend the claims in the manner indicated.

1. (currently amended) A method comprising:

transmitting a first protocol data unit over an air interface, wherein the first protocol data unit includes

a first preamble~~, which enables~~ to enable a receiver to synchronize~~, and which is transmitted at a first modulation rate~~;

a first header, following the first preamble~~, which is transmitted at the first modulation rate~~; and

a first service data unit, following the first header~~, which is transmitted at a second modulation rate~~; and

transmitting a second protocol data unit over the air interface without ~~before expiration of~~ an interframe space between the first protocol data unit and the second protocol data unit.

2. (currently amended) The method of claim 1, wherein said transmitting the second protocol data unit begins approximately at a next symbol boundary after an end of said transmitting the first protocol data unit.

3. (currently amended) The method of claim 1, wherein the second protocol data unit includes:

a second preamble~~, which is transmitted at the first modulation rate~~;

a second header, following the second preamble~~, which is transmitted at the first modulation rate~~; and

[[the]] a second service data unit, following the second header~~, which is transmitted at a third modulation rate~~.

4. (currently amended) The method of claim 3, wherein the first preamble is ~~includes~~ a full-length preamble, and wherein the second preamble is ~~includes~~ a partial preamble.

5. (currently amended) The method of claim 1, ~~4, wherein the first preamble consumes approximately two symbol widths, and~~ wherein the second protocol data unit includes a second header and does not include any preamble ~~consumes approximately one symbol width~~.

6. (currently amended) The method of claim 1, wherein the second protocol data unit includes:

a second header~~, which is transmitted at the first modulation rate~~; and

[[the]] a second service data unit, following the second header~~, which is transmitted at a third modulation rate~~.

7. (currently amended) The method of claim 1, wherein the interframe space is a time period selected from a group of time periods consisting of ~~including~~ a short interframe space, a priority interframe space, a distributed interframe space, and an extended interframe space~~, as defined in an IEEE 802.11 Standard~~.

8. (original) The method of claim 1, wherein the header includes a physical device header.

9. (original) The method of claim 1, wherein the first modulation rate is in a range of approximately 6 to 12 megabits per second.

10. (original) The method of claim 1, wherein the second modulation rate is in a range of approximately 6 to 240 megabits per second.

11. (currently amended) A method comprising:

receiving a first protocol data unit over an air interface, wherein the first protocol data unit includes

a first preamble~~, which enables~~ to enable a receiver to synchronize, and which is received at a first modulation rate;

a first header, following the first preamble, which is received at the first modulation rate; and

the first service data unit, following the first header, which is received at a second modulation rate; and

receiving a second protocol data unit over the air interface before expiration of an interframe space.

12. (currently amended) The method of claim 11, wherein the second protocol data unit includes:

a second preamble, which is received at the first modulation rate;

a second header, following the second preamble, which is received at the first modulation rate; and

[[the]] a second service data unit, following the second header, which is received at a third modulation rate.

13. (currently amended) The method of claim 12, wherein the first preamble is ~~includes~~ a full-length preamble, and wherein the second preamble is ~~includes~~ a partial preamble.

14. (currently amended) The method of claim 11, ~~13, wherein the first preamble consumes approximately two symbol widths, and~~ wherein the second protocol data unit includes a second header and does not include any preamble ~~consumes approximately one symbol width~~.

15. (original) The method of claim 11, wherein the second protocol data unit includes:

a second header, which is received at the first modulation rate; and

the second service data unit, following the second header, which is received at a third modulation rate.

16. (original) The method of claim 15, wherein the second header further includes a data integrity field, the method further comprising:

determining whether the second header is valid using information in the data integrity field; and

if the second header is not valid, evaluating at least one header-sized data segment subsequently received to attempt to find another possible header.

17. (currently amended) The method of claim 11, wherein the interframe space is a time period selected from a group of time periods consisting of ~~including~~ a short interframe space, a priority interframe space, a distributed interframe space, and an extended interframe space~~, as defined in an IEEE 802.11 Standard~~.

18. (original) The method of claim 11, wherein the header includes a physical device header.

19. (original) The method of claim 11, wherein the first modulation rate is in a range of approximately 6 to 12 megabits per second.

20. (original) The method of claim 11, wherein the second modulation rate is in a range of approximately 6 to 240 megabits per second.

21. (currently amended) An apparatus comprising:

a medium access control device, which is operable to provide multiple data units destined for at least one [[a]] receiver to a physical device; and

the physical device, coupled to the medium access control device, which is operable to

transmit a first protocol data unit over an air interface, wherein the first protocol data unit includes

a first preamble, to enable a receiver to synchronize, and which the physical device is to transmit at a first modulation rate;

a first header, following the first preamble, which the physical device is to transmit at the first modulation rate; and

[[the]] a first service data unit, following the first header, which the physical device is to transmit at a second modulation rate; and

transmit a second protocol data unit over the air interface without ~~before expiration of~~ an interframe space between the first protocol data unit and the second protocol data unit.

22. (original) The apparatus of claim 21, wherein the physical device is further operable to transmit the second protocol data unit beginning approximately at a next symbol boundary after an end of transmitting the first protocol data unit.

23. (currently amended) The apparatus of claim 21, wherein the second protocol data unit includes:

a second preamble, which the physical device is to transmit at the first modulation rate;

a second header, following the second preamble, which the physical device is to transmit at the first modulation rate; and

[[the]] a second service data unit, following the second header, which the physical device is to transmit at a third modulation rate.

24. (currently amended) The apparatus of claim 23, wherein the first preamble is ~~includes~~ a full-length preamble, and wherein the second preamble is ~~includes~~ a partial preamble.

25. (currently amended) The apparatus of claim 21, ~~24, wherein the first preamble consumes approximately two symbol widths, and~~ wherein the second protocol data unit includes a second header and does not include any preamble ~~consumes approximately one symbol width~~.

26. (currently amended) The apparatus of claim 21, wherein the second protocol data unit includes:

a second header, which the physical device is to transmit at the first modulation rate; and

[[the]] a second service data unit, following the second header, which the physical device is to transmit at a third modulation rate.

27. (currently amended) The apparatus of claim 21, wherein the interframe space is a time period selected from a group of time periods consisting of ~~including~~ a short interframe space, a priority interframe space, a distributed interframe space, and an extended interframe space~~, as defined in an IEEE 802.11 Standard~~.

28. (original) The apparatus of claim 21, further comprising one or more antennae, coupled to the physical device, which are operable to provide an interface between the air interface and the physical device.

29. (original) The apparatus of claim 21, further comprising an optical transmission device, coupled to the physical device, which is operable to provide an interface between the air interface and the physical device.

30. (currently amended) An apparatus comprising:

a medium access control device~~, which is operable~~ to receive multiple data units from a physical device; and

the physical device, coupled to the medium access control device, ~~which is operable~~ the physical device to

receive a first protocol data unit over an air interface, wherein the first protocol data unit includes

a first preamble, to enable a receiver to synchronize~~, and which the physical device is to receive at a first modulation rate~~;

a first header, following the first preamble~~, which the physical device is to receive at the first modulation rate~~; and

[[the]] a first service data unit, following the first header~~, which the physical device is to receive at a second modulation rate~~; and

receive a second protocol data unit over the air interface, wherein the second protocol data unit is to begin approximately at a next symbol boundary after an end of transmitting the first protocol data unit. ~~before expiration of an interframe space.~~

31. (currently amended) The apparatus of claim 30, wherein the second protocol data unit includes:

a second preamble~~, which the physical device is to receive at the first modulation rate~~;

a second header, following the second preamble~~, which the physical device is to receive at the first modulation rate~~; and

[[the]] a second service data unit, following the second header~~, which the physical device is to receive at a third modulation rate~~.

32. (currently amended) The apparatus of claim 31, wherein the first preamble is ~~includes~~ a full-length preamble, and wherein the second preamble is ~~includes~~ a partial preamble.

33. (currently amended) The apparatus of claim 30, ~~32, wherein the first preamble consumes approximately two symbol widths, and~~ wherein the second protocol data unit includes a second header and does not include any preamble ~~consumes approximately one symbol width~~.

34. (currently amended) The apparatus of claim 30, wherein the second protocol data unit includes:

a second header~~, which the physical device is to receive at the first modulation rate~~; and

[[the]] a second service data unit, following the second header~~, which the physical device is to receive at a third modulation rate~~.

35. (original) The apparatus of claim 34, wherein the second header further includes a data integrity field, and wherein the physical device is further operable to:

determine whether the second header is valid using information in the data integrity field; and

if the second header is not valid, evaluate at least one header-sized data segment subsequently received to attempt to find another possible header.

36. (currently amended) The apparatus of claim 30, wherein the interframe space is a time period selected from a group of time periods consisting of ~~including~~ a short interframe space, a priority interframe space, a distributed interframe space, and an extended interframe space~~, as defined in an IEEE 802.11 Standard~~.

37. (original) The apparatus of claim 30, wherein the header includes a physical device header.

38. (original) The apparatus of claim 30, further comprising one or more antennae, coupled to the physical device, which is operable to provide an interface between the air interface and the physical device.

39. (original) The apparatus of claim 30, further comprising an optical transmission device, coupled to the physical device, which is operable to provide an interface between the air interface and the physical device.

40. (currently amended) A computer-readable medium having program instructions stored thereon to perform a method, which when executed within a wireless local area network device, result in:

transmitting a first protocol data unit over an air interface, wherein the first protocol data unit includes

a first preamble~~, which enables~~ to enable a receiver to synchronize~~, and which is transmitted at a first modulation rate~~;

a first header, following the first preamble~~, which is transmitted at the first modulation rate~~; and

[[the]] a first service data unit, following the first header~~, which is transmitted at a second modulation rate~~; and

transmitting a second protocol data unit over the air interface, the second protocol data unit to begin approximately at a next symbol boundary after an end of the first protocol data unit ~~before expiration of an interframe space~~.

41. (currently amended) The computer-readable medium of claim [[40]] 46, wherein said receiving ~~transmitting~~ the second protocol data unit is to begin ~~begins~~ approximately at a next symbol boundary after an end of said receiving ~~transmitting~~ the first protocol data unit.

42. (currently amended) The computer-readable medium of claim 40, wherein the second protocol data unit includes:

a second preamble~~, which is transmitted at the first modulation rate~~;

a second header, following the second preamble~~, which is transmitted at the first modulation rate~~; and

[[the]] a second service data unit, following the second header~~, which is transmitted at a third modulation rate~~.

43. (currently amended) The computer-readable medium of claim 42, wherein the first preamble is ~~includes~~ a full-length preamble, and wherein the second preamble is ~~includes~~ a partial preamble.

44. (currently amended) The computer-readable medium of claim 40, ~~43, wherein the first preamble consumes approximately two symbol widths, and~~ wherein the second protocol data unit includes a second header and does not include any preamble ~~consumes approximately one symbol width~~.

45. (currently amended) The computer-readable medium of claim 40, wherein the second protocol data unit includes:

a second header~~, which is transmitted at the first modulation rate~~; and

[[the]] a second service data unit, following the second header~~, which is transmitted at a third modulation rate~~.

46. (currently amended) A computer-readable medium having program instructions stored thereon to perform a method, which when executed within a wireless local area network device, result in:

receiving a first protocol data unit over an air interface, wherein the first protocol data unit includes

a first preamble~~, which enables~~ to enable a receiver to synchronize, and which is received at a first modulation rate;

a first header, following the first preamble, which is received at the first modulation rate; and

[[the]] a first service data unit, following the first header, which is received at a second modulation rate; and

receiving a second protocol data unit over the air interface without ~~before expiration of~~ an interframe space between the first protocol data unit and the second protocol data unit.

47. (currently amended) The computer-readable medium of claim 46, wherein the second protocol data unit includes:

a second preamble, which is received at the first modulation rate;

a second header, following the second preamble, which is received at the first modulation rate; and

[[the]] a second service data unit, following the second header, which is received at a third modulation rate.

48. (currently amended) The computer-readable medium of claim 47, wherein the first preamble is ~~includes~~ a full-length preamble, and wherein the second preamble is ~~includes~~ a partial preamble.

49. (currently amended) The computer-readable medium of claim 46, ~~48, wherein the first preamble consumes approximately two symbol widths, and~~ wherein the second protocol data unit includes a second header and does not include any preamble ~~consumes approximately one symbol width~~.

50. (currently amended) The computer-readable medium of claim 46, wherein the second protocol data unit includes:

a second header, which is received at the first modulation rate; and

[[the]] a second service data unit, following the second header, which is received at a third modulation rate.

51. (original) The computer-readable medium of claim 46, wherein the second header further includes a data integrity field, and executing the program instructions further results in:

determining whether the second header is valid using information in the data integrity field; and

if the second header is not valid, evaluating at least one header-sized data segment subsequently received to attempt to find another possible header.